

ORNITHOLOGICAL LITERATURE

ALKEN. By Knud Paludan. Einar Munksgaard, Copenhagen, 1947: 6 × 9 in., 107 pp., 20 pls. (1 colored), 8 figs. Dan. cr. 12.

This is a careful, detailed study (in Danish) of the breeding biology and occurrence of the Razor-billed Auk, *Alca torda*, in Denmark. After a short preface, the author gives a history of the occurrence of the species in Denmark based on the recorded observations of the last 200 years. To those of us of the present day who know Pontoppidan chiefly as the author of some scientific names of birds, it is refreshing to find that the good bishop also was interested in living birds and made some observations of the Razor-bill in his country. Denmark is largely south of the breeding range of the Razor-bill, but nesting colonies have been known for many decades on the island of Bornholm, an outlying part of the Danish Kingdom in the Baltic. Since 1922, another colony has been recorded annually on Graesholm, a small islet off Bornholm. A lone breeding record in the southern Kattegat, north of Holbaek (in Zeeland, the main island of the Kingdom) is regarded as doubtful.

The bulk of the paper is concerned with the breeding habits of the species in and around Denmark. A list of breeding localities, chiefly along the Norwegian coast, but also on the Swedish and Finnish coasts, is given with those in adjacent areas. During the winter months, the birds show little inclination to remain in or even near these localities, and the first sign of the awakening of the reproductive urge is described in a subchapter entitled "Interest in the Breeding Localities Begins." In March, individuals begin to return to their nesting grounds, but it is not until April that they remain there constantly; the earlier arrivals go off considerable distances in their daily search for food—they are not really settled on their nesting grounds but are merely feeding offshore from them. The next step, "The Auks Go to Land. Mating Time," starts during during the middle of April, and the birds appear to have gathering places and also mating places. Quickly following this comes "nest-building," which in this species does not involve any real construction, and egg laying. The first eggs are laid about May 5; in 1943 and 1944 the last were laid by June 20, although in 1941 and 1942 egg laying continued into the first half of July. Series of measurements and weights of the eggs are given.

During the period (25 to 35 days) of incubation and of caring for the young while they remain in or near the nest, both sexes share the family tasks. The author has made some curiously intensive though discontinuous observations on selected nests, and he proves by needlessly elaborate means (such as his diagram on p. 50) what he could have said very simply—the sexes take turns incubating the eggs and brooding the young.

The development of the young is discussed in detail, with graphs showing the growth rate (weight in grams plotted against days of age) and also the daily change in rate of growth. The latter is surprisingly uneven, the curve revealing periods of retarded as well as of accelerated growth rate. The greatest speed in growth is usually shown in the third and fourth, or third, fourth, and fifth days after hatching.

Following the description of the young and their development, a short chapter presents the actual nest "journals" of the author, covering in detail 14 nests, a statement of observational data with which the reader may judge the validity of the author's interpretations and accounts of the breeding activities. This, in turn, is followed by an account of the changes in the whole populations of the colonies on and around Bornholm from year to year. A final chapter on winter records for the Razor-bill in Denmark completes the study, and the paper concludes with a bibliography of the species in Danish waters. The 20 plates, reproducing 43 excellent photographs of the birds, and 8 text figures (including 2 maps) abundantly illustrate the text of this valuable study.—Herbert Friedmann.